

UNITED STATES DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE

NTL No. 98- 4N

Effective Date: March 3, 1998

NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL, GAS, AND SULPHUR
LEASES IN THE OUTER CONTINENTAL SHELF

Interim Guidance for Applying “Simplified Fatigue Analysis” Procedure from American Petroleum Institute (API) Recommended Practice 2A (RP 2A), “Planning, Designing, and Constructing Fixed Offshore Platforms,” Nineteenth Edition (August 1, 1991) and Twentieth Edition (July 1, 1993) and its Supplement 1 (February 1, 1997)

In a letter to the Minerals Management Service (MMS) dated October 2, 1998, the API has advised that a number of questions have arisen regarding interpretation of the “simplified fatigue analysis” procedure referenced in Section 5.1 of API RP 2A-WSD, 20th Edition (February 1, 1997).

API explained that four (4) conditions listed in Section 5.1 that are necessary for use of the “simplified fatigue analysis” procedure were developed to address only the types of structures for which calibration was accomplished. Calibrations were performed for traditional jacket type space frames having perpendicular frames and shallow water unbraced caissons. Detailed fatigue analyses were performed for a series of structures meeting these conditions, and coefficients were developed for these structures. **Due to possible differences in load distribution in structures not meeting these conditions, no conclusions can be reached as to the adequacy of the simplified method without further calibration. Therefore, API included a requirement for a detailed fatigue analysis.**

After the development of Section 5.1, provisions for “minimum structures” were developed and included in RP 2A. Structures meeting the criteria for inclusion in the “minimum structures” category have additional considerations as outlined in Section 16 of RP 2A.

The only “minimum structures” that can utilize the “simplified fatigue analysis” procedure are a special class of caissons identified in Section 16.2.2. A detailed fatigue analysis is required for all other “minimum structures” as stated in Section 16.2.2. Tripods, braced caissons, etc., meet the criteria for classification as “minimum structures” and require a detailed fatigue analysis even though there may be some argument as to redundant structural framing in these structures allowing for the use of the “simplified fatigue analysis” procedure. Redundancy in “minimum structures” does not alleviate the requirement for a detailed fatigue analysis.

FUTURE APPLICABILITY

The API has indicated that there is ongoing work which addresses the possibility of using “simplified fatigue analysis” procedure for tripods. The results of this work are to be presented

at the 1998 Offshore Technology Conference. Any recommended modifications for RP 2A will be presented to the API Subcommittee on Offshore Structures. The Subcommittee must decide to adopt the modifications before they can be incorporated into RP 2A.

In addition, previous NTL No. 98-1N was based on the recommendations of the API Task Group on Consequence Based Design Criteria, which is continuing its work to distinguish between Level 2 and Level 3 Platform characteristics and develop different design criteria for Level 3 Platforms. The Task Group expects this work to result in a formal revision to API RP 2A in 1998 and further recommendations to MMS.

Until all work on Consequence Based Design Criteria and the work on “simplified fatigue analysis” procedure for tripods is completed, the MMS believes that the design criteria presented above and in NTL No. 98-1N will best serve the interests of safe operations for offshore oil and gas lessees and operators and their employees. This interim guidance will remain in effect until the 21st Edition of API RP 2A is incorporated by reference into MMS operating regulations.

This Notice to Lessees and Operators refers to information collection requirements in 30 CFR 250, subparts A and I. The Office of Management and Budget has approved the collection of information in these regulations and has assigned OMB Control Numbers 1010-0030 and 1010-0058, respectively. This Notice to Lessees and Operators does not impose additional information collection requirements subject to the Paperwork Reduction Act of 1995.

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